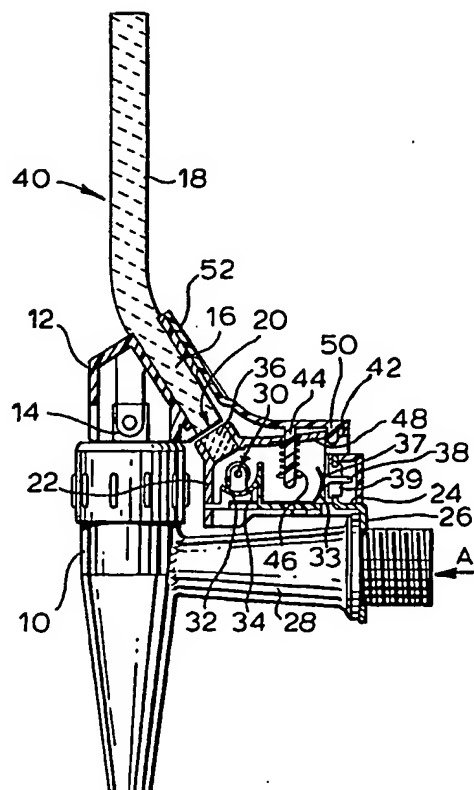




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(54) Title: DISPENSE TAPS		
(57) Abstract <p>Disclosed herein is customer information display apparatus to be attached to a beverage dispense tap, in one embodiment the dispense tap handle (18) is formed of or includes light transparent and/or light reflective material, a light generating means (22, 30) is attached to the tap body, or a counter fitting therefore, remote from the tap handle and means (36, 20) are provided to direct light from the light generating means to the tap handle; whereby, in use, the tap handle can illuminate to display customer information; in another embodiment, a shield (58) is provided on the tap body (10) and/or the tap handle (40) to present an information display surface to face customers and to mask from customer view the pivotal interface (12) between the tap handle and the tap body; at least when the tap handle is in its closed position; the apparatus may be designed to for attachment to existing taps with minimal or no modification.</p>		



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DISPENSE TAPS

This invention relates to dispense taps for beverages and other fluids and particularly relates to customer information displays for such dispense taps.

Taps for pressure-fed beer dispense systems are conventionally attached to a bar counter by a so-called counter fitting that comprises a bracket mounted under or clamped to a bar counter and to which the shank of a dispense tap is attached. Such dispense taps have a tap handle pivoted to a tap body and arranged to open and close a valve in the tap body as the tap handle is operated between an open and a closed position. Typically an attractive display, a counter mount, is fitted to the top of the bar counter; to hide the dispense tap and advertise the beer available from that tap, or the like customer information. The counter mount is often illuminated, conventionally by a 12 or 24 volt festoon lamp; supplied by a mains transformer, provided under the counter.

It is an object of the present invention to provide a tap for pressure-fed beer dispense systems that obviates the need for a counter mount; whilst retaining a customer information display.

According to the present invention, a dispense tap for beverages and other fluids, has a display unit attachable to the tap and/or a counter fitting therefore and arranged, in use, to display customer information on the tap. By this means a neat, attractive dispense tap can be provided that does not need a large, cumbersome counter mount for a customer information display; this further has the advantage that counter space, which is often at a premium can be saved and dispense taps mounted closer to one another behind to counter.

According to one embodiment of the present invention, the display unit includes a tap handle formed of or including

light transparent and/or light reflective material, a light generating means attachable to the tap body, or a counter fitting therefore, remote from the tap handle and means to direct light from the light generating means to the tap handle; whereby, in use, the tap handle can illuminate to radiate and/or reflect customer information. Thus, a dispense tap in accordance with this embodiment of the present invention does not need a counter mount as the tap handle can illuminate to present customer information, such as to advertise the beverage available for dispense. The light generating means may be a low voltage incandescent lamp.

It is known to illuminate the handle of a dispense tap, see for example, US-A-2295468, US-A-2631393, US-A-3286385, US-A-3321861 and US-A-4894647; in each case the light generating means, an incandescent light bulb, is contained within the tap handle. This raises problems of supplying electric power to the light bulb, of overheating the handle, of safety and requires a specially designed dispense tap; i.e. it is not possible to retrofit or convert existing dispense taps to have an illuminated handle. In the present invention, light is directed from an external source into or onto the handle; this obviates the above-given disadvantages of known illuminated tap handles.

In a variant of this embodiment of the present invention, the tap handle is formed of or includes light transparent material and the light directing means are arranged to direct light into the interior of the tap handle. Thus the tap handle will appear to glow by virtue of internal transmission of light through the handle and back-printed or etched designs on the handle will generate eye-catching displays.

In another variant, said light generating means is contained within a light box attached to the tap body, the light box having a window directed towards the tap handle and the tap handle being arranged so that a transparent part of the

handle faces the light box window when the handle is in its closed position; whereby, in use, the handle will radiate light until it is operated and the light box window no longer faces the handle. Thus, an existing dispense tap may simply be modified by replacing the tap handle with a handle in accordance with this aspect of the present invention and attaching a light box to the tap body.

In a preferred variant, means are provided to prevent spillage of light when the tap handle is in its closed and in its open positions. The light spillage prevention means may comprise a shutter movable to cover the light box/tap handle base interface when the tap handle is in its closed position and to obscure the light box window when the tap handle is in its open position. Alternatively, a switch may be provided to turn the light generating means off when the tap handle is in its open position.

In a further variant, a tap handle holder is operatively connected to the tap, a replaceable tap handle is attached to the handle holder and the light generating means is contained within the tap handle holder; whereby, in use, light will be directed from the tap handle holder into the tap handle irrespective of the position thereof.

In a yet further variant, the tap handle is formed of or includes light reflective material and said light directing means are arranged to direct light onto the exterior of the tap handle; whereby, in use, the tap handle will reflect light.

According to another embodiment of the present invention a dispense tap for beverages and other fluids the display unit comprises a shield provided on the tap body and/or the tap handle and arranged to present an information display surface to face customers and to mask from customer view the pivotal interface between the tap handle and the tap body; at least

when the tap handle is in its closed position. Such an unilluminated, dispense tap display and shield has a pleasing appearance and sufficient display area for customer information can be provided for a counter mount to be unnecessary.

It is, of course, recognised that beer pump engines have long had distinctive handles and simple, clip-on placards to display customer information as to the beer being dispensed. Also, gas-pressure beer dispense taps are known to be provided with decorative handles; but it is not known to provided customer information display and shield means on a dispense tap in accordance with the present invention.

US-A-4736890 discloses a resilient dispense tap extension that functions both as a nozzle and a guard attachment. US-A-4493443 discloses a dispense tap having a second handle (8) attached to a first handle (7) which shields the tap pivot (32) from the operator's view. US-A-4226343 discloses a remote controlled dispense tap (14) hidden from view within a housing (37).

In a variant of this embodiment of the present invention, the shield is movably mounted on the tap body with the shield biased against the tap handle; the shield mounting enabling the shield to move relative to the tap body and remain against the tap handle as it pivots between its closed and open positions. The shield may be spring biased against the tap handle.

In a preferred embodiment of said another aspect of the present invention and wherein a tap handle holder is operatively connected to the tap and a replaceable tap handle is attached to the tap handle holder, the shield is arranged to mask the tap handle holder and the pivotal interface between the tap handle holder and the tap body.

The above and other features of the present invention are illustrated, by way of example in the Drawings; wherein:-

- Fig. 1 is a part-sectioned side elevation of a dispense tap with an illuminated handle in accordance with said one embodiment of the present invention;
- Fig. 2 is an end elevation of the tap of Fig. 1, viewed in the direction of arrow A;
- Figs 3 to 5 are side elevations of the tap of Fig. 1, in the closed, half-open and fully-open positions;
- Fig. 6 is a part-sectioned side elevation of a dispense tap provided with a shield and a replaceable handle in accordance with said another embodiment of the present invention; and,
- Fig. 7 is an end elevation of the tap of Fig. 6, viewed in the direction of arrow B.

As shown by Figs 1 to 5, a conventional dispense tap 10, such as an ALUMASC (trade mark) type Q.A. tap, has its operating lever replaced by a handle holder 12 that is pivoted to the tap operating rod 14 to operate the tap in known manner. Socketed in the handle holder 12 is the root 16 of a handle 18, formed of a transparent plastics material; such as an acrylic. The root of the handle terminates in a planar face 20.

A light box 22, of moulded plastics material, is attached to the dispense tap by an L-shaped metal bracket 24, one arm of which is a sliding fit in the light box and the other arm 26 of which is apertured to fit over the threaded end of the tap shank 28 that screws into a counter fitting (not shown). The box itself overlies the tap shank and contains a festoon bulb 30 held between contact arms 32 over a reflector 34 that directs light from the bulb upwardly through a transparent

window 36 onto the root face 20 of the tap handle 18. The contact arms and reflector act as heat shields and heat sinks, preventing beer in the tap shank from being over-heated. The contact arms are of springy, conductive material and extend back so that their ends 33 are biased against the heads 37 of a pair of contact pins 38 mounted in an insulating plug 39 in the bracket 24. A connector from a conventional 12 or 24 volt under-counter transformer (neither shown) connects to the contact pins 38. The light box is thus easily removed from the bracket, to enable the tap shank to be efficiently cleaned and to facilitate ease of light bulb replacement. The bracket thus carries fixed electrical contacts which allows the contact arm ends 33 to slide over the contact pin heads 37, permitting removal of the light box leaving the bracket and electrical connections behind.

Light from the bulb 30 is conveyed or directed into the handle 18, passing through the light box window 36 and the root face 20 to be totally internally reflected within the handle before it emerges (radiates) from the front face 40 of the handle.

The shape of the handle affects the amount and distribution of light within and hence radiation of light from the handle front face; i.e. its brightness. Devices, trade marks or any other form of customer information may be printed onto the back of the handle, whence it will appear as if front illuminated; or may be etched into the handle back face, whence the displayed customer information will appear to be self illuminated against a dark background. We have also discovered that the brightness and evenness of illumination of the handle may be improved by polishing the handle edges, or moulding them with a high finish. Still further improvement in illumination can be obtained by painting the handle edges white or attaching chrome tape or the like to increase internal reflectivity.

The light box 22 is also provided with a shutter 42, in the form of an L-shaped channel moulding, to prevent unwanted spillage of light from the box. The shutter is spring mounted, by an integral pin 44 having a surrounding biasing spring 46, to the top 48 of the light box, together with a further guide pin 50. The upper end 52 of the light shutter 42 overlies and masks the front of the handle holder 12 when the tap is closed position.

The action of the light shutter is best illustrated by reference to Figs 3 to 5. As previously mentioned, when closed (Fig. 3) the shutter 42 masks the handle holder 12; preventing light from bulb 30 spilling out forwardly, into the eyes of a customer, or rearwardly, into the eyes of an operator. When the tap is part-opened (Fig. 4) the handle root face 20 pivots upwardly and rearwardly against the inner surface of the shutter upper end 52, causing the shutter to rise upwardly and forwardly on pins 44 and 50. Light from the bulb 30 will no longer shine into the handle root 16, but shutter 42 will continue to shield the customer's eyes and the handle holder 12 will shield the operator's eyes. In the fully open position (Fig. 5) the shutter upper end 52 has ridden down the handle root face 20, permitting the shutter 42 to fall downwardly and rearwardly so that the shutter upper end now masks the light box window from the operator's eyes and the shutter as a whole continues to shield the customer's eyes. Closing the tap reverses this process, the handle holder first lifts the shutter upwardly and forwardly until the handle root face contacts the shutter and continues the upwards and forwards shutter motion until the contact between root and shutter goes "over centre" and the shutter moves downwardly and backwardly against the tap root as the tap handle moves to the fully closed position.

Thus the bulb 30 can be left on, even when the handle is being operated, this both ensures long bulb life and avoids the necessity for switch contacts.

In unillustrated variants of this embodiment of the present invention, the shutter may be replaced by a switch turning the bulb off as the handle is operated. Or, the light box may be incorporated in the handle holder; this enables the handle to remain illuminated whilst it is being operated.

Alternatively, the tap handle may be of or coated with a light reflective material and the counter fitting may include a spotlight directed to shine onto the handle.

The light box and shutter also serve to hide or mask the pivotal attachment between the tap handle holder and the tap body, resulting in a visually attractive dispense tap even when the light is off. Figs 6 and 7 illustrate a simplified, non-illuminated display and shield also in accordance with the invention; like parts retain the same reference numerals.

A conventional dispense tap 10, such as an ALUMASC (trade mark) type Q.A. tap, has its operating lever replaced by a handle holder 12 pivoted to the tap operating rod 14 to operate the tap in known manner. Socketed in the handle holder 12 is the root 16 of a handle 18.

A box-shaped mounting 54, of moulded plastics material, is attached to the dispense tap by a metal bracket having an arm 56 apertured to fit over the threaded end of the tap shank 28 that screws into a counter fitting (not shown). The mounting box overlies the tap shank.

The mounting box 54 is also provided with a shield 58, in the form of an L-shaped channel moulding, the shield is spring loaded, by an integral pin 60 and surrounding biasing spring 62 that protrude through the top 64 of the mounting box. A further guide pin 66 is provided to maintain alignment of the shield relative to the mounting box. The upper end 68 of the shield 58 overlies and masks the front of the handle holder

12 when the tap is closed.

Mounting box 54 and shield 58 are effectively light box 22 and shutter 42 without the lamp and associated parts. The action of the shield is as described above with reference to Figs 3 to 5.

As best seen by Fig. 7, the customer's view of the dispense tap, the upper end 58 of the shield has a generally planar outer surface that appears above the counter top (indicated by chain line 70). This shield upper end faces the customer irrespective of the operational position of the tap handle and is intended for use for display of the beer being dispensed or any other form of customer information.

The shielding of the pivot 14 and, in the example, the handle holder 12 presents a neat and pleasing appearance for the dispense tap. The tap handle can readily be changed so as to alter the appearance of the tap; this is most important as many beers, lagers etc. have a distinctive "get-up" and the present invention obviates the need for a distinctive counter mount.

Existing dispense taps can readily be adapted to the present invention, the tap handle holder replacing the old tap handle and the mounting box being fitted to the tap shank.

In addition, the shield acts to prevent foreign objects, such as tea towels, cigarette ends, matches etc., from being trapped between the leading edge of the handle holder and the tap body and preventing the tap from fully closing.

Clearly, a removable tap handle is not an essential feature of either embodiment of the present invention.

The present invention has been described when applied to a beer dispense tap wherein the tap handle has a

pivotal/camming action that lifts the tap operating rod to open a diaphragm valve contained in a tap body below the tap handle. However, the present invention is equally applicable to other types of dispense tap; side action rotary, top action lever, etc. In such applications it may or may not be necessary to turn the lamp on or off, to shutter illumination of the tap handle by the lamp or to mask the operating interface between tap handle and tap body from customer view.

CLAIMS:

1. A dispense tap for beverages and other fluids, having a display unit attachable to the tap and/or a counter fitting therefore and arranged, in use, to display customer information on the tap.
2. A tap as claimed in claim 1, wherein the display unit comprises a handle formed of or including light transparent and/or light reflective material, a light generating means attachable to the tap body, or a counter fitting therefore, remote from the tap handle and means to direct light from the light generating means to the tap handle; whereby, in use, the tap handle can illuminate to radiate and/or reflect customer information.
3. A tap as claimed in claim 2, wherein the tap handle is formed of or includes light transparent material and the light directing means are arranged to direct light into the interior of the tap handle.
4. A tap as claimed in claim 3, wherein the light generating means is contained within a light box attached to the tap body, the light box having a window directed towards the tap handle and the tap handle being arranged so that a transparent part of the handle faces the light box window when the handle is in its closed position; whereby, in use, the handle will radiate light until it is operated and the light box window no longer faces the handle.
5. A tap as claimed in claim 4, wherein means are

provided to prevent spillage of light when the tap handle is in its closed and its open positions.

6. A tap as claimed in claim 5, wherein said light spillage prevention means comprise a shutter movable to cover the light box/tap handle base interface when the tap handle is in its closed position and to obscure the light box window when the tap handle is in its open position.
7. A tap as claimed in claim 4, wherein a switch is provided to turn the light generating means off when the tap handle is in its open position.
8. A tap as claimed in claim 3, wherein a tap handle holder is operatively connected to the tap, a replaceable tap handle is attached to the handle holder and the light generating means is contained within the tap handle holder; whereby, in use, light will be directed from the tap handle holder into the tap handle irrespective of the operational position of the tap handle.
9. A tap as claimed in claim 2, wherein the tap handle is formed of or includes light reflective material and said light directing means are arranged to direct light onto the exterior of the tap handle; whereby, in use, the tap handle will reflect light.
10. A tap handle formed of or including light transparent and/or light reflective material for a dispense tap and as claimed in any of claims 1 to 9.

11. A light generating means attachable to a dispense tap or a counter fitting therefore and as claimed in any of claims 1 to 10.
12. A tap as claimed in claim 1, wherein the display unit comprises a shield provided on the tap body and/or the tap handle and arranged to present arranged to present an information display surface to face customers and to mask from customer view the pivotal interface between the tap handle and the tap body; at least when the tap handle is in its closed position.
13. A tap as claimed in claim 12, wherein the shield is movably mounted on the tap body with the shield biased against the tap handle; the shield mounting enabling the shield to move relative to the tap body and remain against the tap handle as it pivots between its closed and open positions.
14. A tap as claimed in claim 13, wherein the shield is spring biased against the tap handle.
15. A tap as claimed in any of claims 12 to 14, wherein a tap handle holder is operatively connected to the tap, a replaceable tap handle is attached to the handle holder, the shield being arranged to mask the tap handle holder and the pivotal interface between the tap handle holder and the tap body.
16. A display and shield attachable to a dispense tap and as claimed in any of claims 12 to 15.

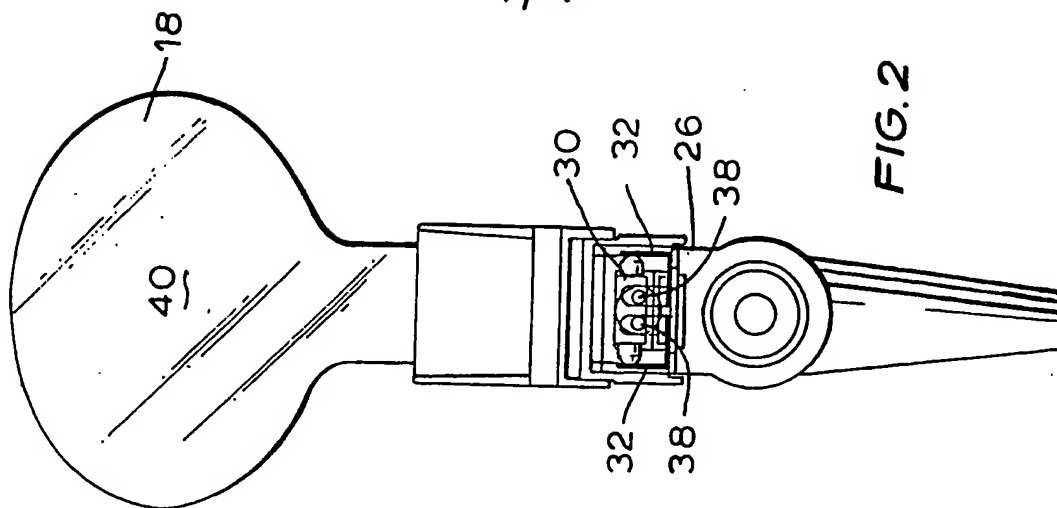
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FIG. 2

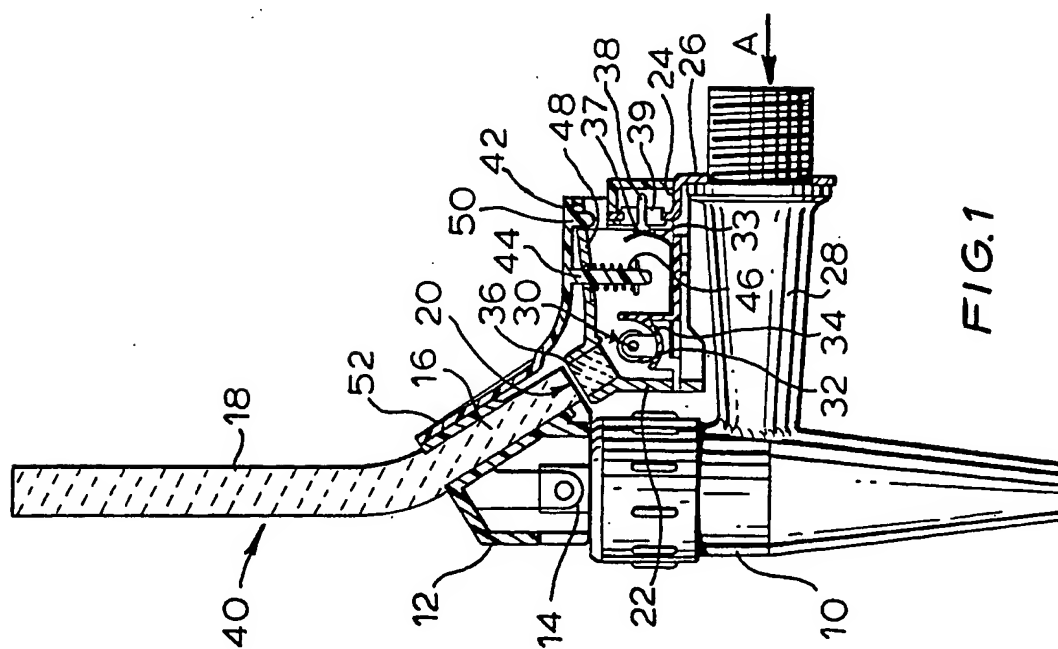
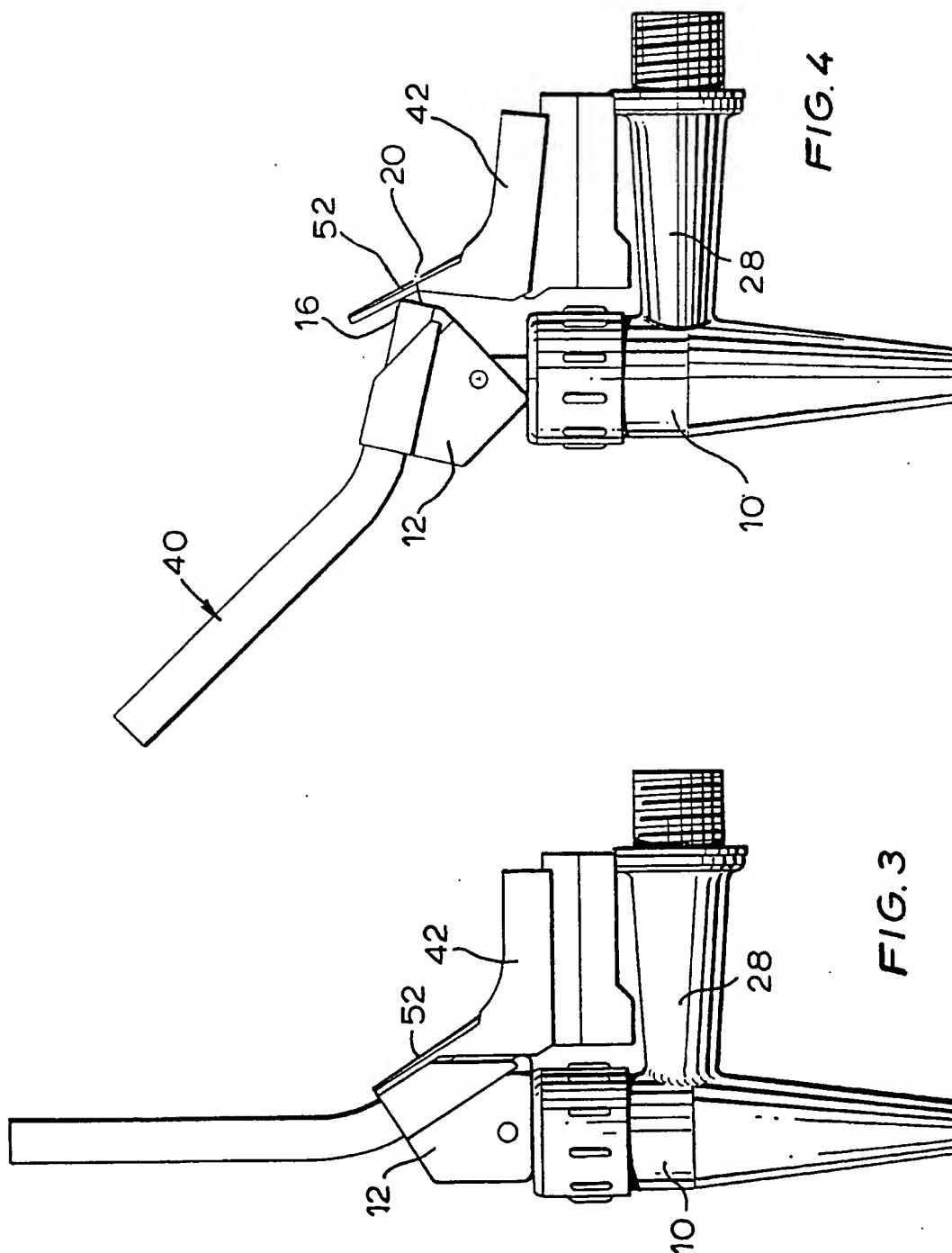
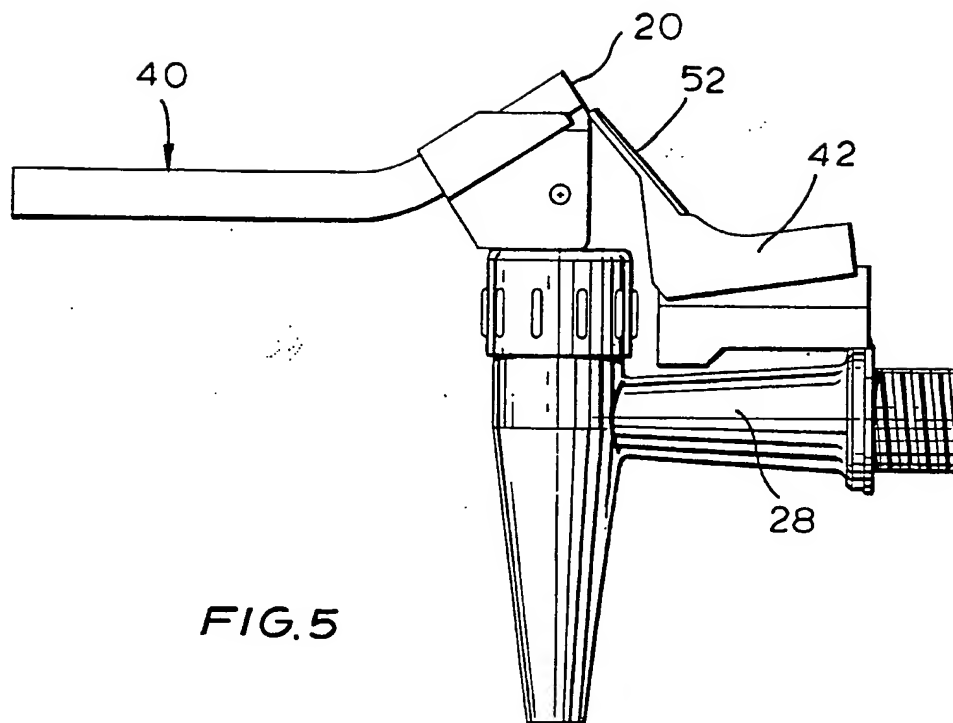


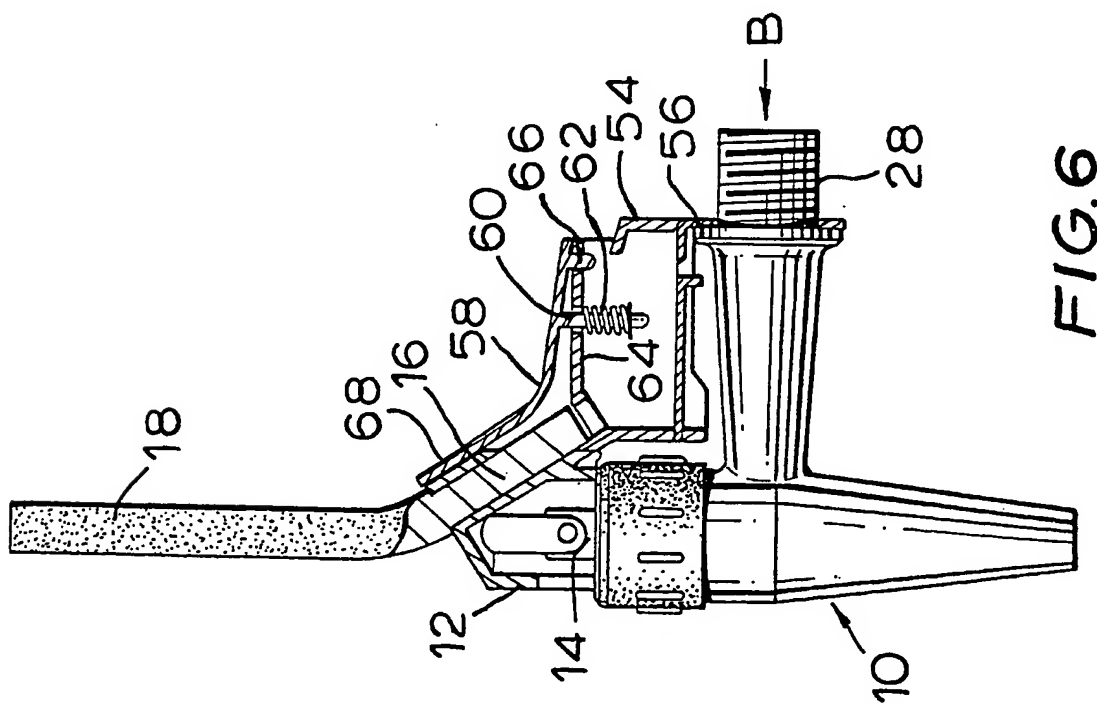
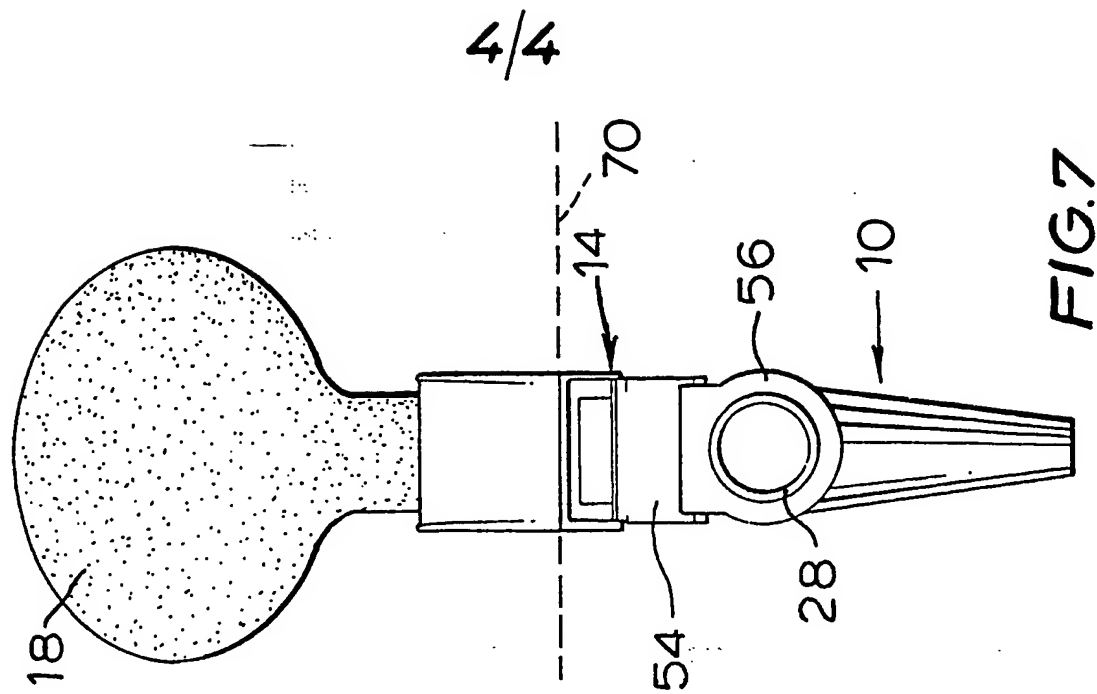
FIG. 1

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INTERNATIONAL SEARCH REPORT

International Application No
PC1/GB 93/01701

A. CLASSIFICATION OF SUBJECT MATTER
IPC 5 B67D1/14 G09F23/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 5 B67D G09F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US,A,2 631 393 (HETHERINGTON) 17 March 1953 cited in the application	10,11
A	see the whole document ---	1,16
X	US,A,3 286 385 (TATE) 22 November 1966 cited in the application	10,11
	see the whole document ---	
A	US,A,3 321 861 (TATE) 30 May 1967 cited in the application -----	

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

12 November 1993

Date of mailing of the international search report

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NL - 2280 HV Rijswijk
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Fax (+ 31-70) 340-3016

Authorized officer

DEUTSCH, J

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 93/01701

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A-2631393		NONE	
US-A-3286385		NONE	
US-A-3321861		NONE	